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USER REPORT

Wirthwein Crimmitschau GmbH & Co. KG, Germany

3-component technology from WITTMANN BATTENFELD at Wirthwein Crimmitschau

Since February this year, Wirthwein has been producing technical parts for the automotive industry with 3-component technology at its plant in Crimmitschau. The equipment used is a MacroPower XL 700 from WITTMANN BATTENFELD.

Wirthwein Crimmitschau GmbH & Co. KG is a company of the Wirthwein Group founded in 1949 by Walter Wirthwein in Creglingen. What started off at that time with the production of octagonal wooden pegs for railroad superstructure is today a family-owned and owner-managed company with more than 3,500 workers on 22 production sites worldwide. The company's entry into plastics processing took place in 1967 with the production of dowels for track fastening. Today's product portfolio of the Wirthwein Group includes components and assemblies for the automotive industry, railroad superstructure, the electrical and household appliances industries, medical technology and interior construction.

In Crimmitschau, fan propellers and frames for the automotive industry have been manufactured since 1993, since 2012 in the name of the newly established Wirthwein Crimmitschau GmbH & Co. KG. Today, this company manufactures technically advanced components for the automotive industry with 120 associates on corporate premises of about 21,000 m², of which almost half is used as storage and production area, with fan propellers and fan frames still constituting the company's core competences. The range of fans includes both axial ventilators for thermal motor control and radial ventilators for conditioning systems in cars. These components are very demanding in terms of tolerances. The balancing requirements for radial ventilators are particularly stringent, since here even the slightest imbalance will cause unpleasant noises in car interiors.

Wirthwein Crimmitschau uses a variety of technologies to manufacture its components, such as compact injection molding, physical foaming, multi-component injection molding, automation, fully automatic greasing and pre-conditioning of parts, right up to assembling complete structural components. Of the 33 injection molding machines operating at Wirthwein Crimmitschau and ranging from 250 to 15,000 kN in

clamping force, nine have come from WITTMANN BATTENFELD. Since 2018, exclusively machines from the servo-hydraulic SmartPower series and the MacroPower series from WITTMANN BATTENFELD have been added. The matching parts removal robots have also come from the WITTMANN Group.

Apart from their compactness and user-friendliness, the servo-hydraulic machines from WITTMANN BATTENFELD stand out primarily by their intelligent, economical energy utilization. Their high level of energy efficiency is primarily due to the combination of a fast-response, speed-controlled, air-cooled servo motor with a highly efficient constant displacement pump, known as the “Drive on Demand” system.

The machine most recently delivered is a 3-component model from the MacroPower series with 7,000 kN clamping force and enlarged clamping plates. This MacroPower XL 700/3400H/350S/210V was installed at Wirthwein Crammischau in February of this year. The machine is used to manufacture a component for a car window regulator consisting of PA, TPE and POM. The machine is equipped with a W843 pro robot from WITTMANN, which removes the finished parts and deposits them on a conveyor belt. Moreover, this machine comes with the HiQ Flow application software, which serves to detect and compensate viscosity fluctuations in the material. A special feature of the MacroPower XL 700 installed at Wirthwein is its direct control of the mold's index plate by way of complete integration of the mold's servo motor in the machine's Unilog B8 control system. This enables high-precision rotary movements of the large-sized, heavy index plate and thus ensures an extremely safe production process.

Great attention was also paid to the cycle time. Independent, parallel movements of the three injection units are a standard feature of the MacroPower Combimould machine. Each injection unit has its own servo-hydraulic drive. The screw drives of the injection units are also equipped with servo motors. This enables dosing of all three aggregates parallel to the movement of the mold. So, an optimized cycle time is ensured even together with an extremely short cooling time.

Dr. Maike Gruschwitz, Plant Manageress of Wirthwein Crammischau GmbH & Co. KG, and Marco Windrich, Managing Engineer, are very pleased with the machines from WITTMANN BATTENFELD. Particularly positive features are the user-friendly, self-explanatory control system, as well as the height of the machines. “Our machine setters like working with the WITTMANN BATTENFELD equipment”, reports Dr. Maike Gruschwitz. Moreover, the service provided by WITTMANN BATTENFELD is said to be excellent. “The commissioning of this most recently delivered machine took a very positive course. All tasks were solved immediately, customers' wishes fulfilled straight away”, Gruschwitz says. And Marco Windrich adds: “The machines from WITTMANN BATTENFELD are less prone to failure than others, and in the

event of any problems, these can very often be solved by telephone, or if not, the WITTMANN BATTENFELD engineers are also quickly on site.” According to Windrich, especially the equipment’s low susceptibility to failure and the fast-troubleshooting service are important for Wirthwein Crimmitschau, since with more than 300 active products every machine standstill involves complex challenges.

Apart from the high quality and easy operation of the machines and the excellent service, the good energy balance of the machines is another important feature for Wirthwein. Marco Windrich comments: “The Wirthwein Group is currently working on a ‘cost over lifetime’ evaluation of its entire machine fleet at all of its production facilities worldwide. In addition to the purchase price, the calculation of these costs also includes technical availability and support, as well as the equipment’s energy consumption and CO₂ footprint. We expect that the WITTMANN BATTENFELD machines will get good results here, due to their high energy efficiency and low susceptibility to failure.”



Fig. 1: MacroPower XL 700/3400H/350S/210V Combimould



Fig. 2: from the left: Marco Windrich, Managing Engineer of Wirthwein Crimmitschau, Dr. Maike Gruschwitz, Plant Manageress of Wirthwein Crimmitschau, Peter Zahn, Sales WITTMANN BATTENFELD

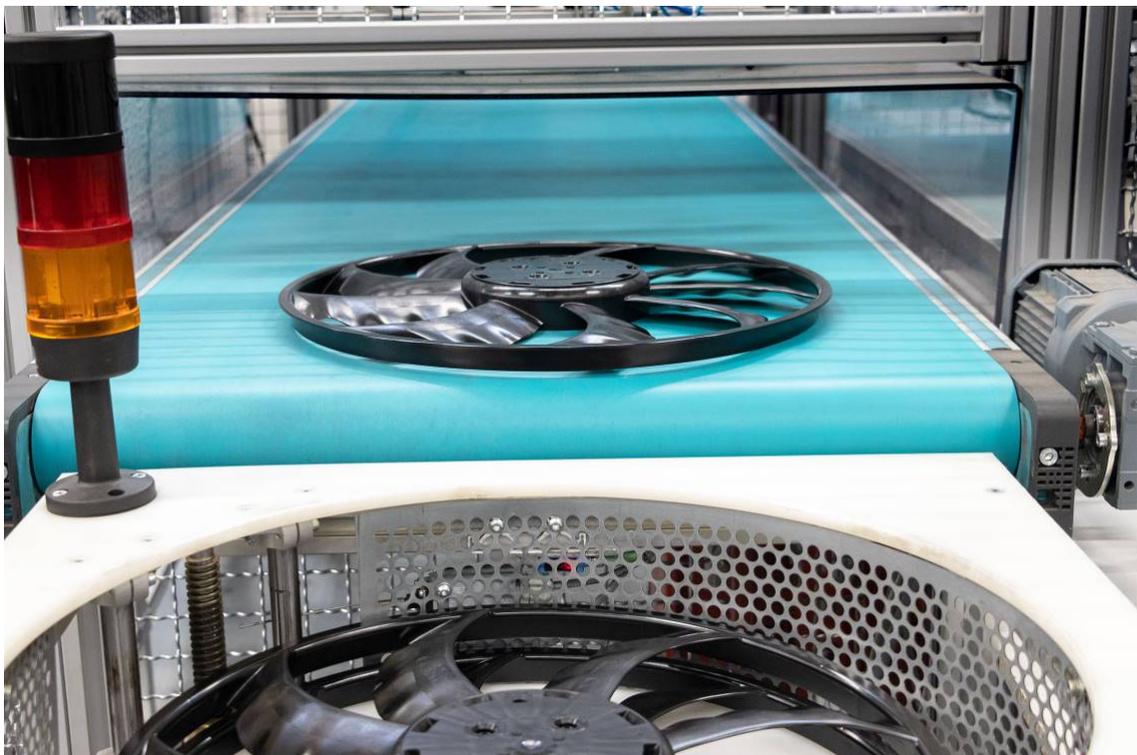
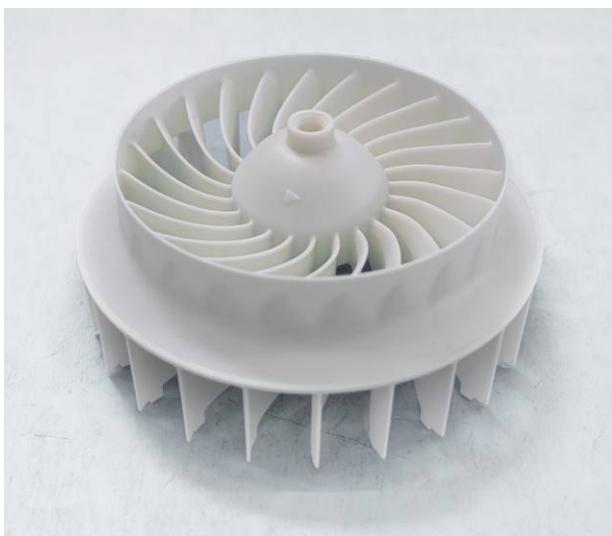


Fig.3: Depositing of axial ventilator wheel



Fig. 4: from the left: Christian Winter, team leader of machine setters at Wirthwein Crimmitschau with Marco Windrich



Figs. 5a+b: Radial ventilator

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate eight production plants in five countries, and the additional sales companies at their 34 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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The most important facts about the Wirthwein Group

Wirthwein is a leading manufacturer of plastic-based components, assemblies and systems for innovative key industries. Family-managed since its foundation in 1949, Wirthwein operates production plants at 22 locations and with more than 3,500 workers in Europe, Asia and North America. As a full-service supplier, Wirthwein combines ultra-modern mold-making, injection molding, blow molding and assembly technologies into a comprehensive package unique in the industry.

Since 2012, Wirthwein Crimmitschau GmbH & Co. KG has been specializing in processing plastics by injection molding, relying on state-of-the-art technology and the expertise of some 110 highly qualified associates. Further information about the Wirthwein Group can be found on www.wirthwein.de or on our social media channels in LinkedIn, Facebook and Instagram.

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